globular head. The ovaries resemble little bunches of grapes of an orange-colour, but each grain is formed by an egg, and not by a secretory cæcum.

The egg during its development projects out of the gland, and is suspended by a peduncle, which is very probably broken at the period of extrusion.

On each side of the median line in the concave valve there is a glandular canal, with an internal and external orifice; this, which represents what Mr. Hancock calls the supposed auricles of the pseudo-hearts, is in relation to the ovary or testis, and serves, probably, for the issue of the ova and seminal fluid.

The young embryos of the *Thecidia* are suspended from two of the cirri of the arms—those of the middle behind the mouth. These cirri, which may be called suspensors, curve backwards and bury themselves in a median incubatory pouch, placed between the two ovaries. This peculiarity impresses upon the shell a character which enables us to distinguish the male from the female *Thecidia*, when the animal no longer exists. A small notch for the passage of the two embryoniferous cirri upon the external twisted lamella which supports the arms always indicates the female sex. There are few examples of this possibility of recognizing the sexes of shells.

The entire series of the development of the ova could not be investigated. The youngest embryos observed resembled an aggregation of large cells. Starting from this state, in which the young animal is ovoid, three furrows are seen to be formed perpendicular to the principal axis, dividing the embryo into four lobes; the two median are comparatively very large, the two outer ones very small. One of the latter appears to be hollowed into a cavity like a sucker; the other presents a longitudinal fissure surrounded by two or four red eye-like spots. It is very probable that this is the anterior extremity, and that its fissure becomes the mouth. The embryos move by the agency of the vibriatile cilia with which they are covered; they often contract themselves. They appear to bend themselves upon the median furrow, and then the greater diameter is much diminished. The substance contained in the anterior median lobe breaks up into lobules, which will afterwards represent the cæca of the liver.—*Comptes Rendus*, November 11, 1861, p. 849.

On a new Species of Neotoma (N. ferruginea) *from Guatemala.*

By R. F. Tomes.

The present species of *Neotoma* is so well-marked a species that it will be scarcely necessary to lengthen the description by comparing it with other species of the genus.

It is typically a *Neotoma*, and in size about equals the *Mus rattus* of Europe. General form rat-like; the head rather elongate, and the muzzle somewhat pointed. Muffle small, being little more than a flat space between the nostrils, and with scarcely any part quite free from short, fine, scattered hairs. Upper lip cleft from the muffle downwards, and well covered with short hairs; nostrils rather small and rounded. Ears simple, roundish, of medium size, and not concealed by the fur. Whiskers quite as long as the head. Fore feet short; the two middle toes of equal length, the outer one about 1½ line shorter, and the inner one not more more than 1 line shorter; claws very short, thumb rudimentary, its nail rounded. Palms with five well-defined and rather large tubercles, of which the anterior one occupies a position at the root of the middle toe, two others are placed one at the root of each of the outer toes, and the remaining two have a transverse position behind those just mentioned, nearly as far back as the carpus, the outer one being a little the further back of the two. The hind feet are remarkable for their breadth, and for having, like the fore feet, toes which are nearly of a length. The tibia is rather long in relation to the foot, although perhaps not in relation to the size of the animal. On the sole of the hind foot are six tubercles, the three anterior ones arranged like those of the fore feet, and a fourth appears at the root of the inner toe. Immediately behind the tubercle of the outer toe, and near to the middle of the sole, is placed the fifth, which is much smaller than the others, and behind that of the inner toe is the sixth, much the furthest back, and near the inner boundary of the sole. The arrangement of these tubercles is much the same as in *N. floridana*; but in consequence of the shortness of the foot, they are of a less elongated form, though fully as prominent. The claws, like those of the fore feet, are short. The tail is as long as the head and body, and tapers evenly to a somewhat obtuse point; it is finely annulated, and pretty evenly suffused with short black hairs, which do not conceal the scales even towards the end of the tail, where they are most abundant. The under surface is much less distinctly hairy than the upper.

The distribution of hair on the under surfaces of the fore and hind feet is as follows:—Short and thick fur, of nearly the same quality as that of the body, extends on the fore legs quite to the carpus; it is white inside the leg, and of the same colour as the upper parts of the body outside of it. On the upper surface of the toes the hairs are silvery white, adpressed, short, and projecting forward around the claws so as to hide them. The hind legs have the tibiæ densely hairy behind, quite to the *os calcis*, and from thence there is an extension of adpressed greyish hairs along the inner side of the sole to the posterior tubercle; but there is a very narrow line left near the outer boundary of the sole, which is quite free from hairs. On the upper surface of the foot the hair of the legs extends somewhat further, and from this the foot is covered with short, adpressed, silvery hairs, grey on the foot and white on the toes.

The general colouring is remarkable, and unlike that of any other species of *Neotoma*. All the upper parts are of a bright rufous colour, and all the under parts pure white, the line of separation being very clear and distinct. The fur of the back is mixed with black hairs, giving that part a much darker colour than the sides of the body, where these hairs are less abundant. Fur of the outer surface of the fore and hind legs strongly tinged with dusky, inner surface of the fore legs whitish, of the hinder ones dusky grey. On nearly all parts of the body the fur is bicoloured, dusky at its roots for two-thirds of its length; on the upper parts the dusky colour becomes almost black, and on the under much paler. From the chin to the space between the fore legs is an elongated patch of fur which is pure white from root to tip, just as in *Hesperomys atrogularis*. The tail is deep dusky above, paler below; claws white.

In the outline of the grinding-surfaces of the molar teeth, this species differs from all others at present described. Without entering into a minute description of these teeth, of which it is difficult to give a clear idea without figures, it may be stated that they have somewhat the same arrangement of cusps as those of *N. cinerea* of Baird, saving that in the present species the anterior cusp or prism of the first tooth in the lower jaw is in a position decidedly outside the line of the cusps of the other teeth. The exposed ends of what I have termed the prisms of these teeth constitute their grinding-surface, which, instead of having an angular outline as in *N. cinerea*, present, as in those of *N. floridana*, a series of transverse, ovoid or loop-like figures; but these loops in the present species are much narrower in an antero-posterior direction than in any other species, owing to the folds of enamel entering more deeply and broadly into the sides of the tooth.

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Length of the head and body	6	6
—— of the head	1	9
—— of the ears	0	8
—— of the fore-arm	1	3
—— of the fore foot and claws	0	8
—— of the tibia	1	5
—— of the tarsus and toes	1	3
—— of tail	6	0
Breadth of the ears	0	8
—— of the hind feet at the root of the inner toe	0	3
Length of the skull from the front of the nasal bone to the occipital crest	1	8
Breadth across the zygomatic arch	0	11
Length of the nasal bones	0	8
—— from the point of the upper incisor to the crown of the first molar	0	6
—— of the molar series	0	4
Length of the incisive foramina	0	4
—— of the palate	0	4
Breadth of palate between two front molars	0	1½
—— of palate between two posterior molars	0	2
Length of lower jaw from point of incisors to condyle	1	0
Depth from coronoid process to the angle	0	6

Proc. Zool. Soc. June 25, 1861.